(19) World Intellectual Property Organization
International Bureau



## . | 1001 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1

(43) International Publication Date 24 December 2003 (24.12.2003)

**PCT** 

Italian

(10) International Publication Number WO 03/106504 A1

- (51) International Patent Classification<sup>7</sup>: C08B 37/00, 37/08, 37/10, A61K 31/726, 31/727, 31/737
- (21) International Application Number: PCT/IB03/02338
- (22) International Filing Date: 17 June 2003 (17.06.2003)
- (25) Filing Language:
- (26) Publication Language: English
- (30) Priority Data:
  MI2002A001345
  MI2002A001346
  MI2002A001346
  MI2002A001854
  MI2002A001854
  MI2002A001854
  MI2002A001854
  MI2002A001854
- (71) Applicants and
- (72) Inventors: ORESTE, Pasqua, Anna [IT/IT]; Via Mac Mahon, 43, I-20155 Milan (IT). ZOPPETTI, Giorgio [—/IT]; Via Mac Mahon 43, I-20155 Milano (IT).
- (74) Agent: SANTORO, Tiziana; Marietti, Gislon e Trupiano S.r.l., Via Larga, 16, I-20122 Milan (IT).

- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



106504 A1

(54) Title: EPIMERIZED DERIVATIVES OF K5 POLYSACCHARIDE WITH A VERY HIGH DEGREE OF SULFATION

(57) Abstract: A new method is described for the oversulfation of epiK5-N-sulfate to obtain an epiK5-amine-O-oversulfate with very high sulfation degree which, by subsequent N-sulfation, provides new epiK5-N,O-oversulfate-derivatives with a sulfation degree of at least 4, basically free of activity on the coagulation parameters and useful in the cosmetic or pharmaceutical field. Also described are new low molecular weight epiK5-N-sulfates useful as intermediates in the preparation of the corresponding LMW-epiK5-N,O-oversulfate-derivatives.